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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,210	10/02/2003	Felix Anthony Perriello	GLOB64012	9639

7590 11/16/2005

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301 Grant Street  
Pittsburgh, PA 15219

EXAMINER

BARRY, CHESTER T

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/677,210

Applicant(s)

PERRIELLO, FELIX ANTHONY

Examiner

Chester T. Barry

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,13,15-17,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1, 3-8, 13, 15-17, 22-23 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

Claims 1, 3-8, 13, 15-17, 22-23 are generic to a plurality of disclosed patentably distinct species comprising means for introducing at least one alkane. *THE SPECIES ARE:*

A. diffuser 22, as shown in Fig. 1;

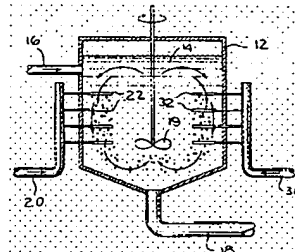


FIG. 1

B. Fig. 5 embodiment in which alkane injection line 48 leads to a point adjacent to upper baffle 54 (shown at right); and the Fig. 1 embodiment of USP 5,925,290 to Hill (incorp'd by ref. by applicant at parag. [0007])(not shown);

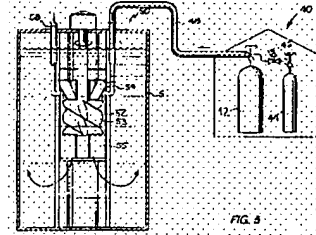


FIG. 5

C. Fig. 6 / Fig. 7 embodiment in which alkane injection line 48 leads to a point adjacent to upper baffle 64;

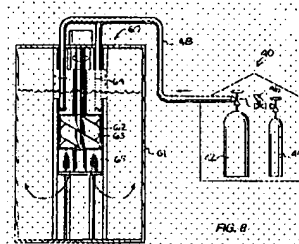


FIG. 6

D. Fig. 10 embodiment in which butane injection port 82 is in fluid connection with air injection line 81;

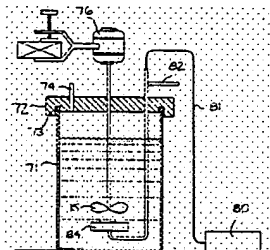


FIG. 10

E. butane injection system of USP 6210579 Fig 17;

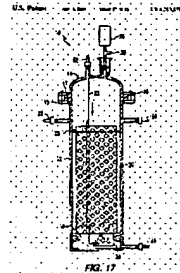
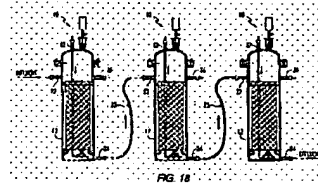
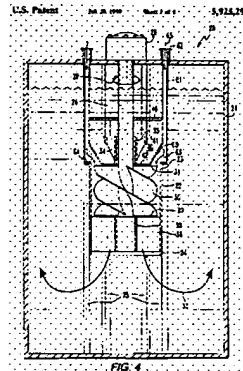


FIG. 17

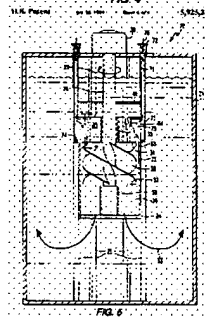
F. butane injection system of USP  
6210579 Fig 17;



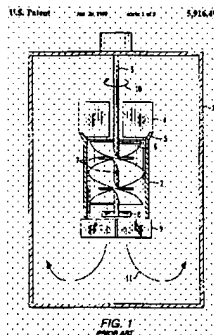
G. Fig. 4 embodiment of USP 5,925,290  
to Hill (incorp'd by ref. by applicant at  
parag. [0007]) (shown at right);



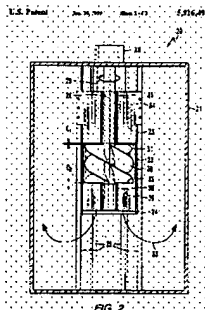
H. Fig. 5 embodiment of USP 5,925,290  
to Hill (incorp'd by ref. by applicant at  
parag. [0007]) (shown at right);



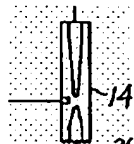
I. Fig. 1 embodiment of USP 5,916,491  
to Hill (incorp'd by ref. by applicant at  
parag. [0007]) (shown at right);



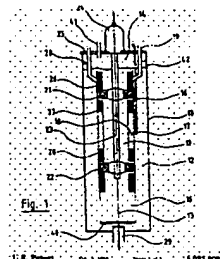
J. . Fig. 2 embodiment of USP  
5,916,491 to Hill (incorp'd by ref. by  
applicant at parag. [0007]) (shown at  
right);



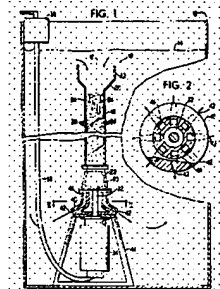
K.; venture injector 14 of USP 5,494,576 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);



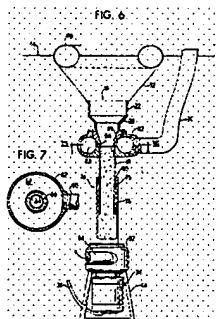
L. gas/liquid mixer of USP 5,314,076 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);



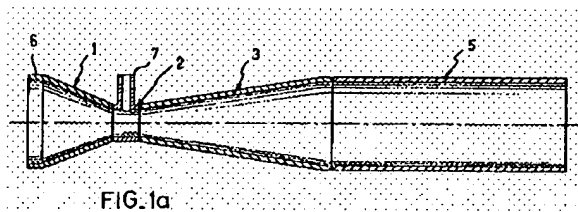
M. gas/liquid contactor of Fig. 1 of USP 5,085,809 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);



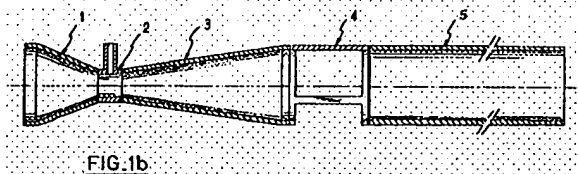
N. gas/liquid contactor of Fig. 6 of USP 5,085,809 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);



O. gas/liquid dispersing device of Fig. 1a of USP 5,073,309 (incorp'd by ref. by applicant at parag. [0007]) (at right);



P. gas/liquid dispersing device of Fig. 1b of USP 5,073,309 (incorp'd by ref. by applicant at parag. [0007]) (at right);



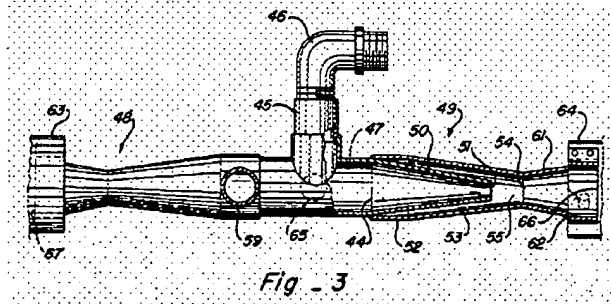
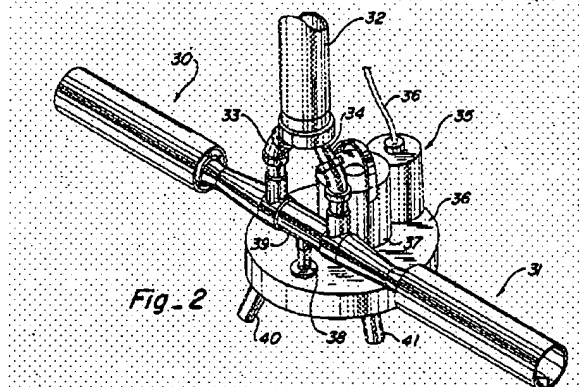
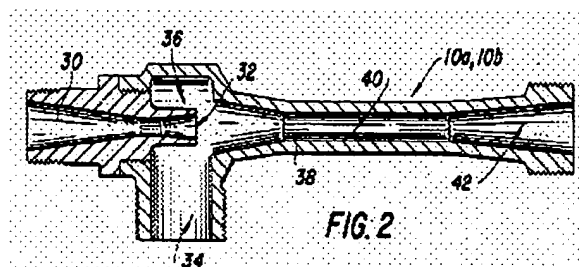
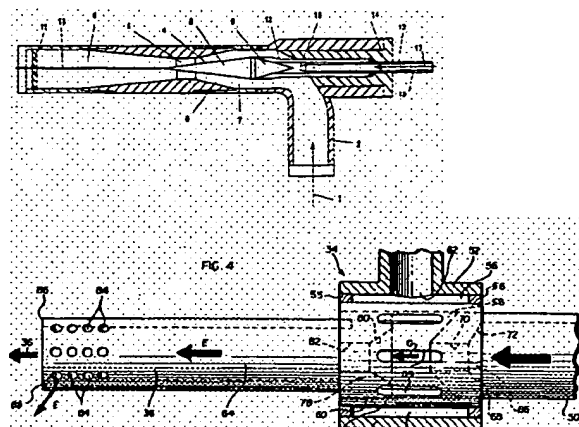
Q. gas/liquid contactor of USP 5,061,406 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);

R. venturi of Fig. 4 of USP 4,956,080 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);

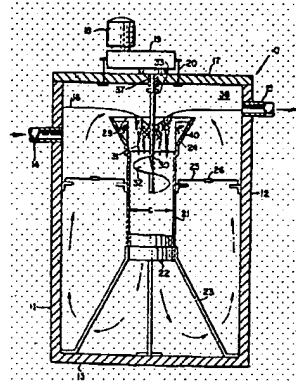
S. jet pump of Fig. 2 of USP 4,695,378 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);

T. aerator of Fig. 2 of USP 4,645,603 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);

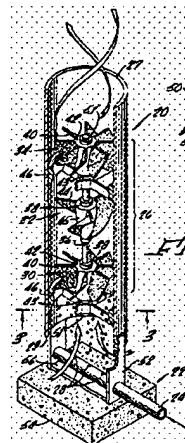
U. aerator of Fig. 3 of USP 4,645,603 (incorp'd by ref. by applicant at parag. [0007]) (shown at right);



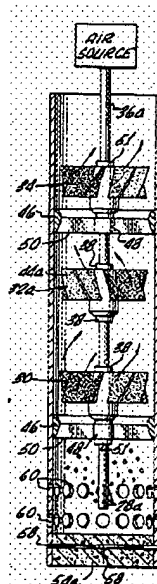
V. device of USP 4,328,175 (incorp'd by  
ref. by applicant at parag. [0007])  
(shown at right);



W. aerator of Fig. 1 of USP 3,969,446  
(incorp'd by ref. by applicant at parag.  
[0007]) (shown at right);



X. aerator of Fig. 1 of USP 3,969,446  
(incorp'd by ref. by applicant at parag.  
[0007]) (shown at right);



Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even  
though this requirement is traversed.

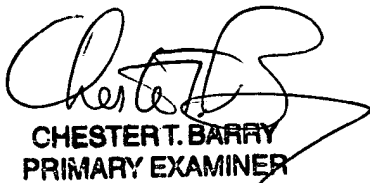
Art Unit: 1724

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Given the relatively large number of species involved in this requirement for election, a telephone call was not made to Mr. Towner on Nov 10, 2005, to request an oral election of a specie. Accordingly, no election was made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even if the requirement is traversed (37 CFR 1.143).

Respectfully,



**CHESTERT. BARRY**  
**PRIMARY EXAMINER**  
571-272-1152